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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/644,488 | 08/20/2003 | Peter Greenwood | ANO6272/3554 | 7401 |

7590 03/29/2006
Michelle J. Burke
Akzo Nobel Inc. - Intellectual Property Dept.
7 Livingstone Avenue
Dobbs Ferry, NY 10522

EXAMINER

MITCHELL, KATHERINE W

ART UNIT PAPER NUMBER

3677

DATE MAILED: 03/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--|---|--|
| Office Action Summary | Application No. 10/644,488 | Applicant(s) GREENWOOD ET AL. | |
| | Examiner Katherine W. Mitchell | Art Unit 3677 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 2,3,5,7,9,11,13 and 15-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,6,8,10,12 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. <u>1-25-2006</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>1-25-2006</u> . | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

The request filed on 1/25/2006 for a Request for Continuing Examination (RCE) under 37 CFR 1.114 is acceptable and an RCE has been established. Any previous finality is hereby withdrawn and a new action on the merits follows. Any newly-submitted claims have been added. An action on the RCE follows.

Allowable Subject Matter

The indicated allowability of claims 4 and 12 is withdrawn in view of the newly discovered reference(s) to translated Shimata. Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,4,6,8,10,12,14 are rejected under 35 U.S.C. 102(b) as being anticipated by Shimada et al, JP 2001-3047 -- note that all page and paragraph numbers refer to the translation provided by applicant.

Re claims 1, 8, 10, and 14: Shimata teaches in paragraph 1 page 4, paragraph 19 page 8, and para 26 page 11 a method of sealing a leaking part or cavity, using a grout composition of alkali metal silicate (waterglass/sodium silicate) colloidal silica particles, and at least one gelling agent. Paragraphs 28-30, pages 11-12 teach at least

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one gelling agent is an alkali metal salt. Paragraphs 20-24, pages 9-10, teach the weight ratio of silica to silicate from about 2:1 to about 100:1, and table 4, example 7 teaches a ratio of from 6:1 to about 20:1, which of course includes the broader ranges of claim 1 and 8.

Further Re claim 6: Hydraulic binders of cement lime, gypsum, etc are taught in para 28.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada et al, JP 2001-3047 (note that all page and paragraph numbers refer to the translation provided by applicant) in view of Bartlett et al USP 5370478, hereafter called Bartlett and W.R. Grace "LUDOX® Colloidal Silica, posted on the internet on or before Jan 7, 2001, as documented by www.archive.org, hereafter referred to as LUDOX.

Re claim 4: Shimada teaches all the elements including colloidal silica, but is silent on whether the colloidal silica is a silica sol with specific S-values. Bartlett teaches a method of sealing a leaking cavity in col 5 lines 5-65, col 7 lines 36-52 and col 8 lines 63-68, comprising injecting into said cavity colloidal silica (silica sol, abstract). Col 2 lines 28-44 teach the composition as a sealing composition. Col 5 lines 20-31 teach that the colloidal silica was non-aggregated, thus inherently the S-value was

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between about 30 and 90. Non-aggregated inherently teaches an S value of between about 30 to about 90, as applicant has defined S-value as characterizing the extent of aggregation of the silica particles in silica sol on page 4, lines 7-8.

While examiner believes non-aggregated inevitably teaches an S value between about 30 to about 90, if it is held that this is not, it would have been obvious to one of ordinary skill in the art, having the teachings of Bartlett before him/her at the time the invention was made, to modify Bartlett to use a sol with an high S value of between about 30 to about 90 in order to ensure non-aggregated sols, as applicant has noted in admitted prior art that Iler and Dalton correlate a high S value with low aggregation, and developed the S value specifically to characterize the extent of aggregation. One would have been motivated to make such a combination because non-aggregated sols would have been obtained, as taught/suggested by Bartlett. Further, it would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have used such a range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Re claim 12: Shimata teaches a specific size of silica particles but does not teach the standard deviation lower than @ 15% by numbers. Bartlett teaches using LUDOX as the silica sol, and Bartlett teaches the specific particle size in col 5 lines 20-27 and col 10 lines 13-24. Examiner takes Official Notice that it is well known to maintain a tight control of the deviation from standards, and that Shimada teaches in par 33 and Table 1 specific average particle sizes. Uniform particle sizes are known to

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promote uniform mixing, dissolving, and reactions, and are specifically available as a primary class, "mono-dispersed, very narrow particle size distribution of LUDOX® colloidal silica" per LUDOX. Thus it would have been obvious to one of ordinary skill in the art, having Shimada and Bartlett and LUDOX before him at the time the invention was made, to maintain a uniform particle size with small deviations, since such a modification would have involved a mere change in the size of a component and was available per LUDOX when a narrow particle size range was needed. Note that a change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955). Further, it would have been considered obvious to one of ordinary skill in the art, at the time the invention was made, to have used such a range, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

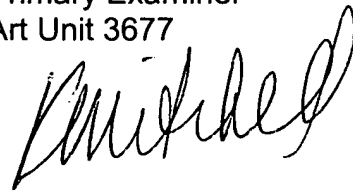
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine W. Mitchell whose telephone number is 571-272-7069. The examiner can normally be reached on Mon - Thurs 10 AM - 8 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. J. Swann can be reached on 571-272-7075. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Katherine W Mitchell
Primary Examiner
Art Unit 3677

A handwritten signature in black ink, appearing to read 'K Mitchell', written in a cursive style.

Kwm
3/23/2006